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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/707,386	11/07/2000	Jack D. Pippin	423901674C2D2	9388
22850	7590	06/06/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			LUU, CHUONG A	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 06/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/707,386

Applicant(s)

PIPPIN, JACK D.

Examiner

Chuong A. Luu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,9-12,14-17,19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,9-12,14-17,19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/15/2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1, 3-7, 9-12, 14-17 and 19-20 have been considered but are moot in view of the new ground(s) of rejection.

PRIOR ART REJECTIONS

Statutory Basis

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The Rejections

Claims 1, 3-7, 9-12, 14-17 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joehlin et al. (U.S. 4,807,144) in view of Suzuki et al. (U.S. 5,189,647).

Joehlin discloses a temperature monitoring and control system with
(1); (12) a pre-programmed fixed threshold temperature has been exceeded;
clock adjustment logic to control temperature of the integrated circuit in response
to the programmable thermal sensor indicating that a programmable threshold

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temperature has been exceeded by decreasing a clock frequency of the integrated circuit (see Figure 4);

(3); (14) wherein the halt logic is to inhibit operation of the integrated circuit by stopping a clock for the integrated circuit (see Figure 4);

(4); (15) wherein the halt logic protects the integrated circuit without software control (see Figure 4);

(5) a plurality of thermal sensors placed across the integrated circuit; an averaging mechanism in communication with the plurality of programmable thermal sensors to calculate an average temperature from the plurality of programmable thermal sensors (see Figure 4);

(6) wherein the clock adjustment logic is further to control the temperature of the integrated circuit by increasing the clock frequency of the integrated circuit (see Figure 4);

(7) wherein the clock adjustment logic is further to execute instructions to provide closed loop control of the integrated circuit clock frequency, thereby automatically reducing the temperature when overheating occurs (see Figure 4);

(9) further comprising threshold adjustment logic to increase the programmable threshold temperature value to a new threshold temperature value in response to the programmable thermal sensor indicating that the threshold temperature value has been exceeded (see Figure 4);

(10) wherein the threshold adjustment logic is further to lower the new threshold temperature to detect decreases in temperature (see Figure 4);

(11) further comprising an interrupt handler to display information regarding a sensed temperature to a user of the integrated circuit upon generation of an interrupt in the fail safe sensor or the programmable thermal sensor (see Figure 4);

(16) wherein controlling further comprises increasing the clock frequency of the integrated circuit in response to the sensed temperature (see Figure 4);

(17) wherein controlling further comprises executing instructions to provide closed loop control of the integrated circuit clock frequency in response to the sensed temperature (see Figure 4);

(18) further comprising decreasing a clock frequency of the integrated circuit in response to the sensed temperature indicating that a threshold temperature value has been exceeded (see Figure 4);

(19) further comprising displaying information regarding a sensed temperature to a user of the integrated circuit in response to generation of an interrupt in the first sensor or the second sensor(see Figure 4)

(20) wherein the integrated circuit is a microprocessor (see Figure 4).

Joehlin teaches everything above except for a fail safe sensor; a programmable thermal sensor; halt logic to halt operation of the integrated circuit in response to the fail safe sensor indicating that. However, Suzuki discloses an information processing system with **(1)**; **(12)** a fail safe sensor; a programmable thermal sensor; halt logic to halt operation of the integrated circuit in response to the fail safe sensor indicating (see Figure 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teaching of Joehlin (accordance with

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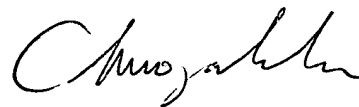
the teaching of Suzuki). Doing so would facilitate the manufacture of the semiconductor device and increase the safety and protection of the structure.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong A. Luu whose telephone number is (571) 272-1902. The examiner can normally be reached on M-F (6:15-2:45).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chuong Anh Luu
Patent Examiner
May 26, 2006